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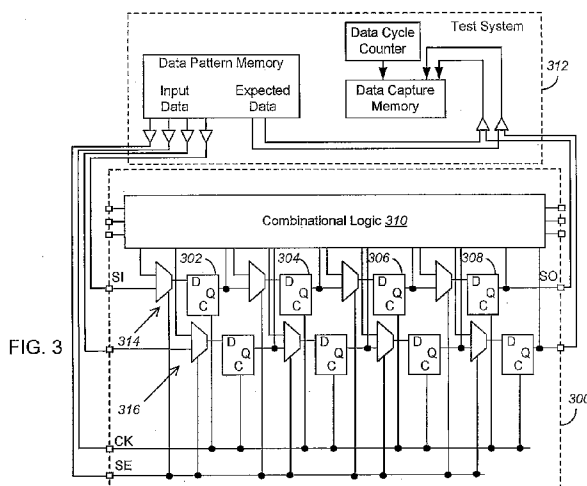
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(54) Title: METHODS FOR ANALYZING SCAN CHAINS, AND FOR DETERMINING NUMBERS OR LOCATIONS OF HOLD TIME FAULTS IN SCAN CHAINS



(57) Abstract: An environmental variable of a scan chain is set to a value believed to cause a hold time fault, and a pattern is shifted through the scan chain. The pattern has a background pattern of at least n contiguous bits of a first logic state, followed by at least one bit of a second logic state, where n is the scan chain's length. The number of possible hold time faults in the scan chain is determined as a difference between i) a clock cycle when the at least one bit is expected to cause a transition at the scan chain's output, and ii) a clock cycle when the at least one bit actually causes a transition at the scan chain's output. If there is a value of the environmental variable at which the scan chain operates correctly, the location(s) of hold time faults can be determined.

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